REMARKS

Claims 1, 17, 20, 22 and 25 are amended herein. Support for the amendment to Claim 1 is throughout the specification, for example, at page 10, lines 4-6 and page 14 line 15 to page 16, line 6 (Examples 1 and 2). Claims 20 and 25 are amended to correct minor typographical errors. No new matter has been added by the amendments.

Claims 1-26 are pending in this application.

Rejection of Claims 20 and 25 under 35 U.S.C. §112, second paragraph

Claims 20 and 25 are rejected under 35 U.S.C. §112, second paragraph as being indefinite. The Office Action has identified typographical errors in these claims. Claims 20 and 25 are amended herein to correct these errors. Accordingly, Applicants respectfully request that this ground for rejection of the claims be removed.

Rejection of Claims 1, 2, 5 and 6 under 35 U.S.C. §§102(b) and 103(a)

Claims 1, 2, 5 and 6 are rejected under 35 U.S.C. §102(b), as being anticipated by, or, in the alternative under 35 U.S.C. §103(a), as obvious over the abstract of Japanese Patent 56 099667 (the '667 Abstract).

The Office Action states that the acid value of 15-100 mg KOH in the '667 Abstract is either equivalent to or an obvious variant of the hydroxyl value of Claim 1. As evidence of the state of the art, an excerpt from Wicks et al. is provided.

Applicants respectfully traverse.

Claim 1 is directed to a plastic film, comprising: a substrate; and a hard coating layer formed on at least one side of the substrate, wherein the hard coating layer has a crosslinked structure comprising a methacrylic or acrylic polymer with a hydroxyl value of 20 to 80 (KOH mg/g) and a crosslinking agent. Claims 2, 5 and 6 depend from Claim 1.

Applicants respectfully submit that an acid value is a completely different measure than a hydroxyl value, and, accordingly, there is no basis to conclude that the resin of the '667 Abstract has any similarity to the claimed film. Claim 1 recites "a hydroxyl value of 20 to 80 (KOH mg/g)" as a characteristic of the polymer of the claimed film. The '667 Abstract describes an acrylate resin "having an acid value of 15-100 mg KOH/g."

As demonstrated in the excerpt from Wicks et al. provided along with the Office Action, "[a]cid number is determined by titration and is defined a the number of milligrams of KOH required to neutralize 1 g of resin solids." (Wicks et al., page 111, bottom paragraph). Applicants specification, for example, at page 12, lines 13-23, describe measurement of the hydroxyl value as performed according to JIS K 0070. The specification teaches:

> The hydroxyl value was determined as shown below. One gram of the (meth)acrylic polymer is precisely weighed and dissolved in 5 ml of an acetylation reagent (acetic anhydride/pyridine). The solution is heated at a temperature of 95 to 100°C for one hour so that acetylation is allowed to occur. One ml of pure water is added in order to hydrolyze the acetic anhydride, and 10 ml of ethanol is added. In an automatic titration apparatus, the resulting solution is titrated with an aqueous 0.1 mol/L KOH solution for measurement of the hydroxyl value (according to JIS K 0070).

Thus, an acid number assay is directed to neutralization of a resin by KOH, which reflects the number of acid groups of the resin. Accordingly, the '667 Abstract teaches parameters for various carboxylic acids present in the resins described. In contrast, a hydroxyl value assay is directed to acetylation of free hydroxyl groups, as measured by neutralization of acetic acid by KOH, which reflects the number of hydroxyl groups of the resin.

The '667 Abstract does not disclose any information regarding the number of hydroxyl groups in the resin. Accordingly, absent further information, there is no basis to conclude that the '667 Abstract discloses polymers with the hydroxyl value range recited in Claim 1. Furthermore, nothing in the '667 Abstract teaches or suggests the desirability of polymers with the recited hydroxyl value. Accordingly, there is no guidance provided by the '667 Abstract that would lead one to polymers with the characteristics recited in Claim 1. As such, the '667 Abstract does not anticipate nor render obvious the plastic film of Claim 1 or claims dependent therefrom.

In the instant application, Applicants have determined that the recited hard coating layer on a substrate improves the solvent resistance of a plastic film without reducing its abrasion or weather resistance. Nothing in the '667 Abstract would lead one skilled in the art to the hydroxyl functional group-containing polymers recited in the claims, which have improved the solvent resistance of a plastic film without reducing its abrasion or weather resistance.

Notwithstanding Applicants' position that the '667 Abstract cannot render Claim 1 and claims dependent therefrom anticipated or obvious, Applicants have amended Claim 1 to further recite that the crosslinking agent is selected from the group consisting of an epoxy-type crosslinking agent and an isocyanate-type crosslinking agent, and that the methacrylic or acrylic polymer does not contain carboxylic acid functional groups. The amendments to Claim 1 further distinguish Claim 1 and claims dependent therefrom over the '667 Abstract because the '667 Abstract does not teach or suggest a crosslinking agent selected from the group consisting of an epoxy-type crosslinking agent and an isocyanate-type crosslinking agent. Moreover the '667 Abstract teaches the desirability of resins formed from compounds containing carboxylic acid functional groups. Thus, the '667 Abstract teaches away from the polymers recited in Claim 1, as presently amended. As such, Claim 1 and claims dependent therefrom, are not obvious over the '667 Abstract.

In view of the above, Applicants respectfully request reconsideration and removal of this ground for rejection of Claims 1, 2, 5 and 6.

Rejection of Claims 1, 2, 5 and 6 under 35 U.S.C. §§102(b) and 103(a)

Claims 3, 4 and 7-26 are rejected under 35 U.S.C. §103(a), as obvious over the abstract of Japanese Patent 56 099667, and Claims 3, 4, 7, 8, 11, 12, 15, 16, 19, 20, 24 and 25 are rejected under 35 U.S.C. §103(a), as obvious over the '667 Abstract in view of Bugajski et al., U.S. Pat. No. 5,777,022.

The Office Action indicates that Bugajski discloses parameters such as HALS-hybrid methacrylic or acrylic polymers. The Office Action states that the swelling rate after contacting with toluene is within the skill in the art in view of the '667 Abstract, pressure sensitive adhesive layers are know, and other claimed parameters are obvious modifications.

Applicants respectfully traverse.

Bugajski teaches coating polypropylene substrates with acid functional acrylic resins (Bugajski at Abstract). Bugajski teaches "acid numbers" that range from 10 to 250 (Bugajski at column 3, lines 43-45). Bugajski does not teach or suggest hydroxyl values (or hydroxyl numbers). Bugajski does not teach or suggest polymers with particular ranges of hydroxyl groups. Moreover, the teachings of Bugajski add nothing to the teachings of the '667 Abstract discussed above. Thus, neither the '667 Abstract nor Bugajski, alone or combined, teach or

suggest polymers containing particular ranges of hydroxyl groups in accordance with the hydroxyl values recited in the instant claims.

Applicants further submit that Claims 3, 4, 20 and 25, directed to plastic films in which the recited polymer is a HALS-hybrid methacrylic and/or acrylic polymer, is not taught or suggested by any art of record. The '667 Abstract is silent regarding any HALS compounds. Bugajski teaches acrylic emulsions containing Tinuvin 292, a hindered amine light stabilizer. However, neither this emulsion, nor any reaction product thereof, contains a HALS-hybrid polymer. Applicants teach at page 9, lines 2-5 that a HALS-hybrid polymer is a hindered amine light stabilizer (HALS) having a functional group at its end, and is copolymerized in the methacrylic or acrylic polymers of the plastic film. Thus, the HALS-hybrid polymer of the present claims is distinguished from the HALS-containing emulsions of Bugajski in that there is no indication in Bugajski that Tinuvin 292 has been modified to have a functional group added thereto, such that the Tinuvin 292 is a copolymerization component of the resultant resin. Furthermore, Bugajski provides no teaching or suggestion for modifying Tinuvin 292 in order to form a HALS-hybrid primer. Thus, there is no basis for concluding that Bugajski teaches for suggests a HALS-hybrid polymer.

Furthermore, as discussed above, Applicants have amended Claim 1 to further recite that the that the methacrylic or acrylic polymer does not contain carboxylic acid functional groups. The amendments to Claim 1 further distinguishes Claim 1 and claims dependent therefrom over the '667 Abstract and Bugjaski because the cited references teach the desirability of resins formed from compounds containing carboxylic acid functional groups. Thus, the cited references teach away from the polymers recited in Claim 1, as presently amended. As such, Claim 1 and claims dependent therefrom, are not obvious over any combination of '667 Abstract and Bugjaski.

In view of the above, Applicants respectfully request reconsideration and removal of this ground for rejection of Claims 3, 4 and 7-26.

CONCLUSION

In view of the above, Applicants respectfully maintain that claims are patentable and request that they be passed to issue. Applicants invite the Examiner to call the undersigned if any remaining issues may be resolved by telephone.

Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,

KNOBBE, MARTENS, OLSON & BEAR, LLP

Dated: March 14, 2006 By: _____

Katsuhiro Arai
Registration No. 43,315
Agent of Record
Customer No. 20,995
(949) 760-0404